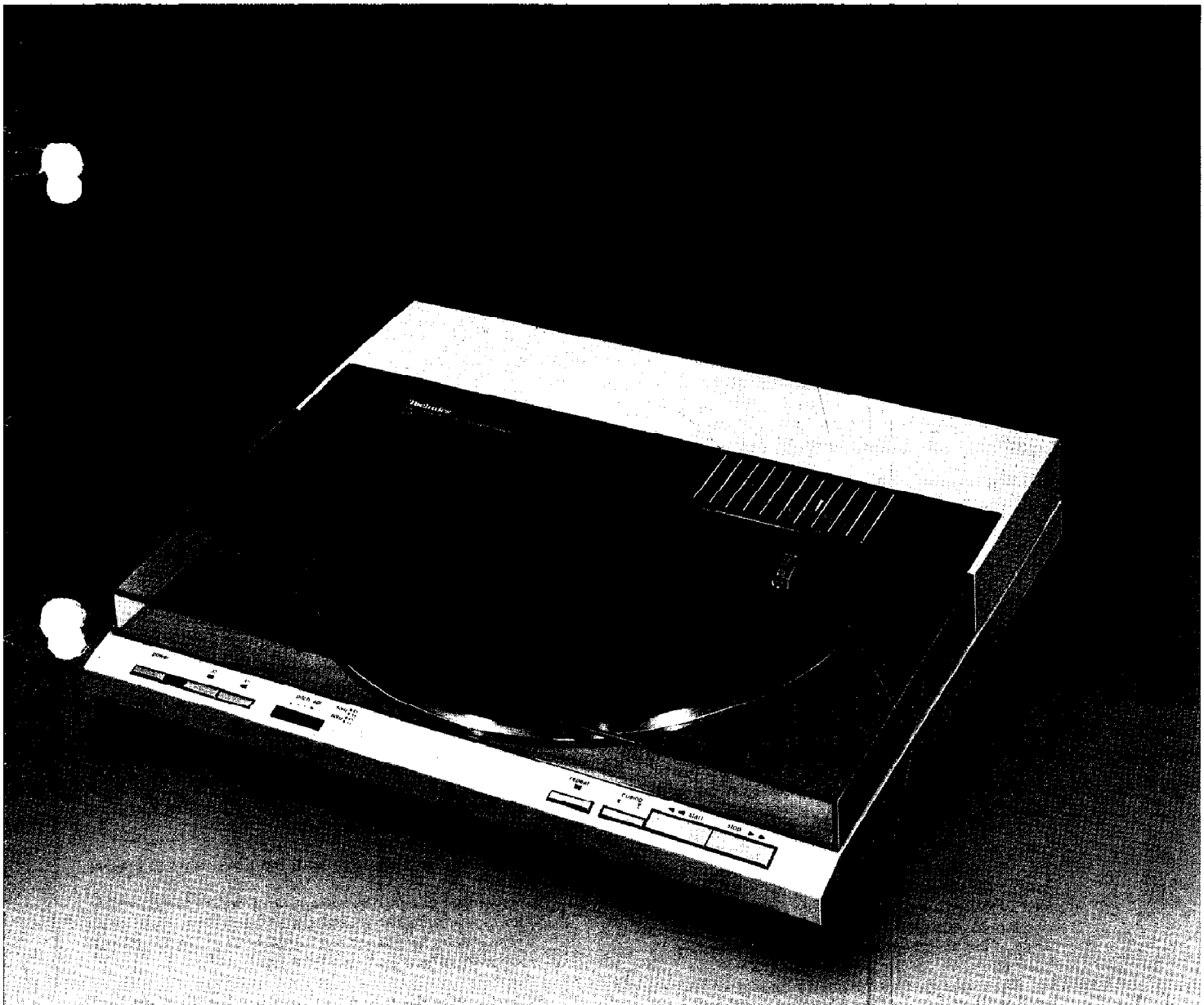
1981

Technics

Direct Drive Automatic
Turntable System

SL-DL1

Operating Instructions



This apparatus was produced to "BS800: 1977"

Before operating this product, please read these instructions completely.

We want to thank you for selecting the SL-DL1.
For optimum performance, we recommend that you read these instructions carefully.

Caution for safe use of this apparatus (For UNITED KINGDOM)

Caution

- This apparatus is double insulated, safety earth not required.

Important

- **The wires in this mains lead are coloured in accordance with the following code:**

Blue:	**Neutral**
Brown:	**Live**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

This equipment should be disconnected from the mains when not in use.

Before use

This unit is shipped with packing material and spacers attached to protect it during transport. Some parts are not mounted on the unit and are packed separately. Please read these instructions carefully before use.

■ Removing the packing material

1. Pull off the tonearm protection spacer. **(Fig. 1)**
   Be careful not to touch the stylus.
2. Remove tape on side of cartridge. (This prevents the stylus assembly from shaking loose during shipment.)

■ Contents

Turntable unit 1
Turntable platter 1
Turntable mat 1
45-rpm adaptor 1

■ Installation of turntable platter

1. Place the turntable platter on the center spindle. **(Fig. 2)**
   Put your fingers through the two holes in the platter, and line them up with the two recesses underneath. Follow the reverse procedure if it is necessary to remove the platter.
   Note:
   The rotor is connected to the underside of the turntable platter. (The magnet of the motor is attached to the turntable platter.) To maintain optimum performance, extra care should be taken to prevent adhesion of dust or iron filings to the magnet and not to damage the magnet by dropping it.
   Do not remove or loosen the screws. Should the position of the fixed magnet be altered by loosening the securing screws, the rated performance of the unit cannot be guaranteed. **(Fig. 3)**
2. Place the turntable mat on the platter. **(Fig. 4)**
   Line up the protrusions in the turntable mat with the recesses in the platter (at two places, as shown).

Connections

■ Connect the output terminals (Fig. 5)

Output terminals	Amplifier or Receiver
L (White) ——→	L Channel
R (Red) ——→	R Channel
GND (Spade lug) ——→	GND

Note:
Always connect the ground cord to the GND terminal on your amp or receiver to prevent hum.

■ Connect the AC power plug

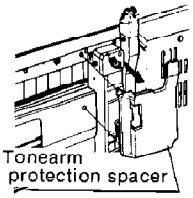
Connect the AC power plug to an AC wall socket.

Caution:
Make sure that the turntable's AC line-voltage selector is matched to your local voltage before connecting the AC power plug. **(Fig. 5)**
Never connect to a DC socket.
If the pre-selected voltage is different from your local voltage, turn the AC line-voltage selector with a screwdriver so that it corresponds to your local voltage.
The AC line-voltage selector is located at the bottom of the base.

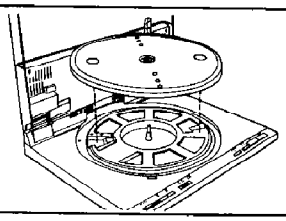
Placement

- **Place the unit in a stable and horizontal position where there is little or no vibration.**
- **Place the unit away from the speakers so that it will be subject to as little direct sound radiation as possible.**
- **Do not use or store this unit where it will be exposed to dust, dirt, high humidity or high temperature. Do not place it near heaters.**
- **Place it in a well ventilated location.**
- **Do not use under direct sunlight, spotlights, or other extremely bright light sources.**
  Bright lights may cause misoperation of the optical sensor system and therefore interference with automatic operation. This also applies to flashlights or infrared remote control units brought very close to the turntable.
- **Do not place it near or on top of a power amplifier, since power amps radiate much heat.**
- **Place the turntable away from the power amp to prevent hum.**
  Hum may be caused by leakage flux from the transformer in the power amplifier (or integrated amp). Therefore, if you notice hum, try moving the turntable to a slightly different location, further away from the amp.
- **If you try to listen to a radio near the turntable while it is turning, you may hear some interference.**

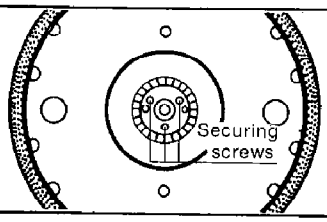
1



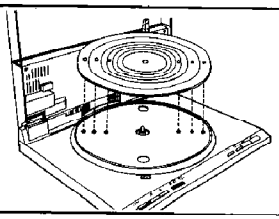
2



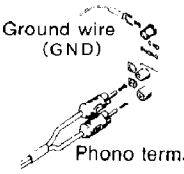
3

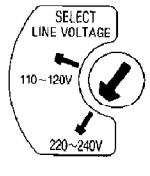


4



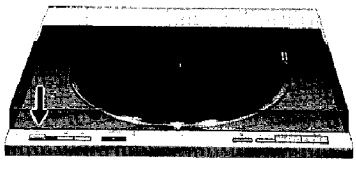
5



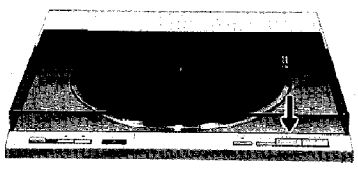


6

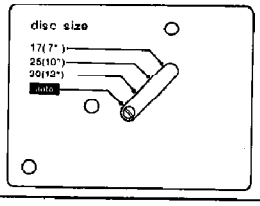
7



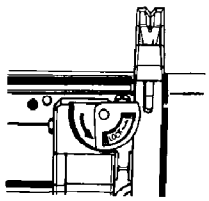
8



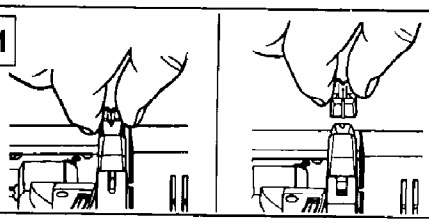
9



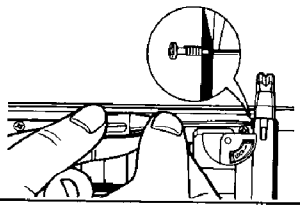
10



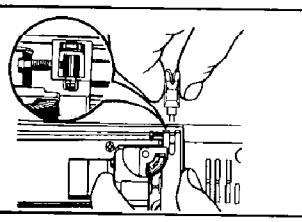
11



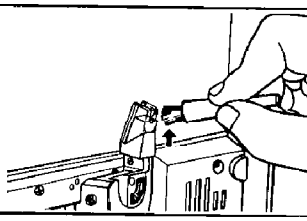
12



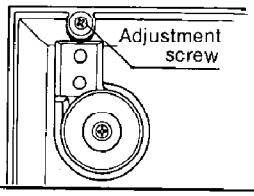
13



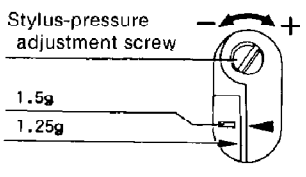
14



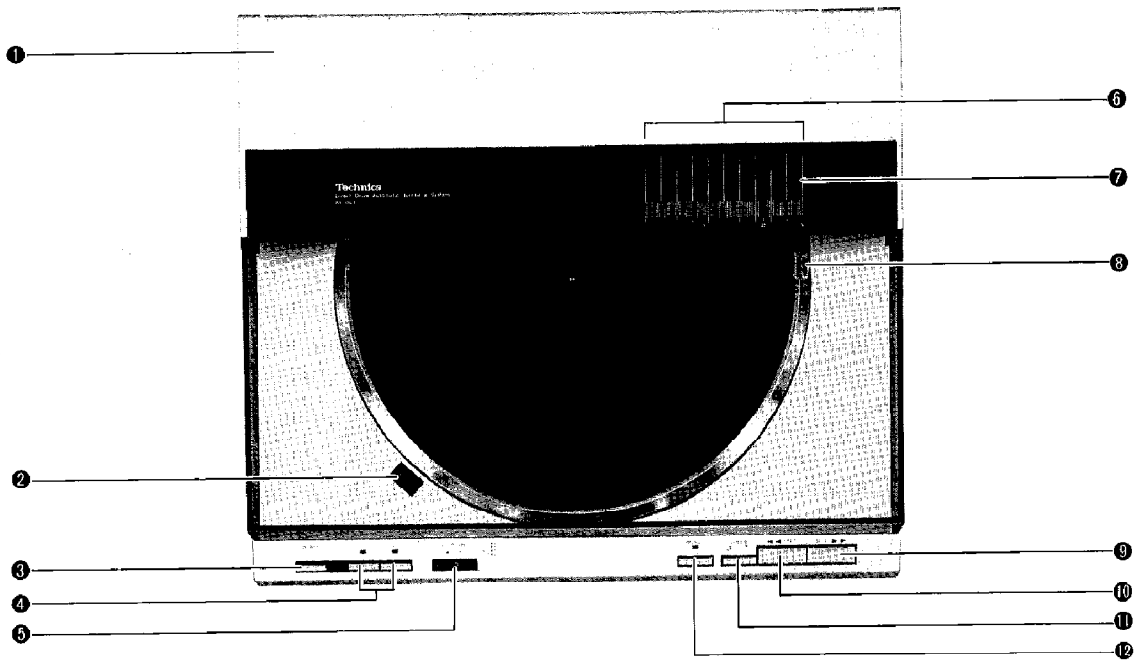
15

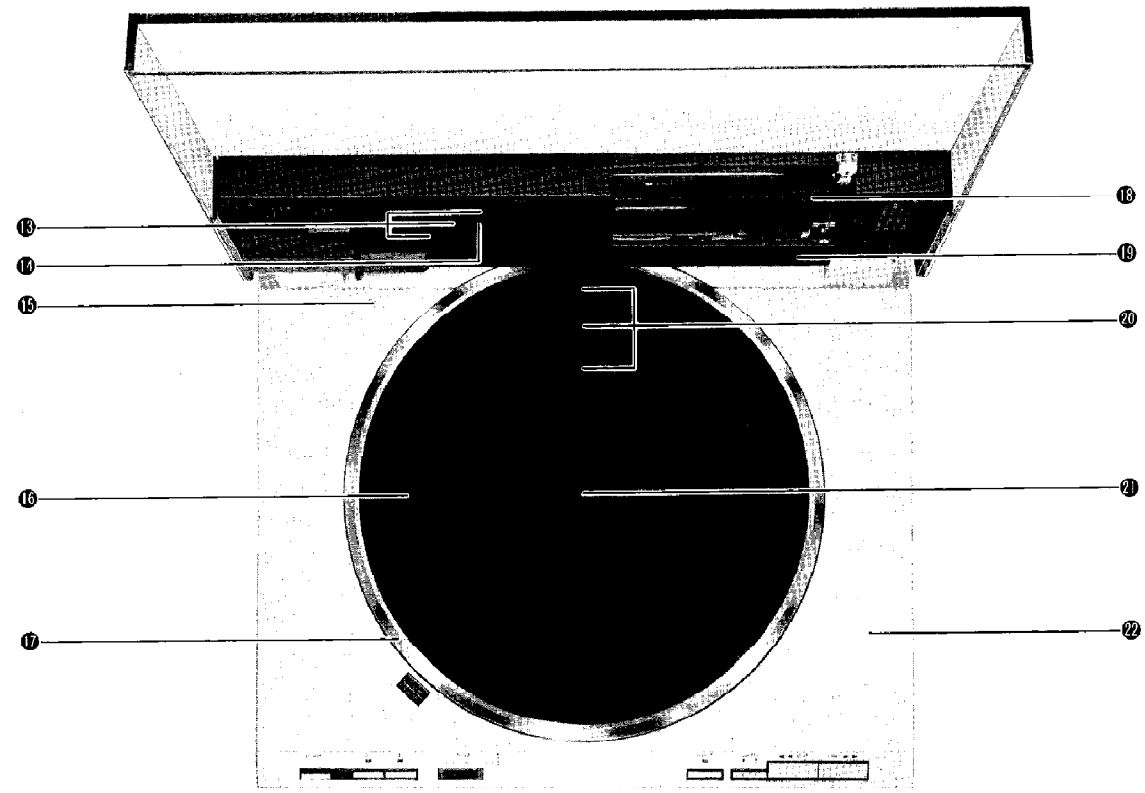


16



Parts identification





Functions

(Keep page 1 folded out while reading this page.)

❶ Upper cabinet (Dust cover)
(Contains tonearm drive mechanism.)
Must be closed during play.

❷ Strobe-illuminator/Pilot lamp

❸ Power switch:
When the power switch is turned on (▬), the 33 speed selector lights up along with the tonearm position indicator and strobe illuminator/pilot lamp.

❹ Speed selector:
Although the 33 speed selector LED lights up automatically when the power is turned on, there is no need to manually select speed or record size. As long as the disc size selector is at the auto position, standard size LPs (25 cm and 30 cm diameter) will be played at 33-1/3 rpm and EPs (17 cm diameter) will be played at 45 rpm. Speed must be manually selected if the record speed does not correspond to the record size as described above. To manually select the speed, depress the correct speed selector with the power on and the upper cabinet closed. This automatically cancels the disc size detector. The detector is reactivated when the upper cabinet is opened. Speed can not be selected manually while the upper cabinet is open.

❺ Pitch control

❻ Record groove scale:
This scale is graduated in 1 mm indications.
Useful for judging tonearm position.

❼ Tonearm position indicator LED:
When the power switch is turned on, the tonearm LED will light up. LED position corresponds to stylus position on the record surface.

❽ Cartridge

❾ Stop switch:
For stop play (auto-return) and fast and slow outward cueing.
When you press the stop switch (for less than one second), an LED (▶) lights up momentarily and the tonearm automatically returns to the start position. (auto-return)
If you keep the switch depressed (for more than one second), the tonearm will move outward (▶) toward the edge of the record. Press harder and the tonearm will move faster (▶▶).
If you press the cueing control to raise the tonearm, and then press the stop switch intermittently, the arm will move outward in approximately 1 mm steps.

❿ Start switch:
For beginning play (auto-start, auto-lead-in) and fast and slow inward cueing.
When you press the start switch, an LED (◀) lights up momentarily and the tonearm automatically moves to the record's lead-in groove and the record starts playing. (auto-start, auto-lead-in)
If this switch is pressed during play, the tonearm will return to the start position and begin playing it over again.
If you keep the switch depressed, the tonearm moves inward (◀) toward the center of the record. Press harder and the tonearm will move faster (◀◀).
The tonearm will not move when you press the start switch if there is no record on the platter (as long as the disc size selector is at the auto position).

⓫ Cueing control:
Interrupting play
Pressing the cueing control during play causes the tonearm to rise off the record. To resume play, press the control again.
A muting circuit cuts out noise when the stylus initially contacts or leaves the record surface.

⓬ Repeat switch:
For repeat play
When you press the repeat switch, an LED lights up and the record is played repeatedly from beginning to end.
When you want to stop this cycle, merely press the repeat switch again.
Pressing the stop switch will cause the tonearm to rise and return to the start position; it will also stop repeat operation.

⓭ Optical sensor:
This detects light coming through the guide slits in the platter and thereby detects the size of the record being played. It also detects whether there is a record on the platter or not.

⓮ Disc size selector:
This is normally set to the auto position **unless special (transparent or colored) records are to be played.**
(See "How to operate" section for details.)

⓯ Reset switch:
This switch automatically returns the tonearm to the start position if the upper cabinet is opened during play. Therefore, this switch is not meant to be operated by hand.

⓰ Turntable mat:
Do not use any turntable mat except the one supplied.

⓱ Turntable platter

⓲ Arm lock:
Be sure this lock is released before play.

⓳ Stylus-pressure adjustment screw

⓴ Light guide slits:
Infrared light passing through these slits is used for opto-electronic detection of record size (30, 25, 17 cm or 12", 10" 7").

㉑ Center spindle

㉒ Lower cabinet:
(Contains the turntable drive circuitry.)
The lower cabinet may feel warm during operation, but this has no adverse effect on records or cartridge.

Operation

■ Auto-play

(Basic procedure)

1. Open the upper cabinet gently.
2. Place a record on the turntable mat. **(Fig. 6)**
3. Close the cabinet gently.
   Note:
   The turntable will not rotate even if the start switch is pressed without closing the cabinet.
   Do not press controls until upper cabinet is closed.
4. Press the power switch to the on (⏏) position. **(Fig. 7)**
   The 33 speed selector LED lights up, as do the tonearm position indicator and strobe illuminator/pilot lamp.
5. Press the start switch. **(Fig. 8)**
   Note:

- Wait about two seconds after you turn on the unit before pressing the start switch.
  This assures dependable and accurate operation.
  The optical sensor will detect the record size and determine record speed. According to size and speed, the tonearm will automatically move to the lead-in groove and play will begin.
  (Auto lead-in, auto-start.)
  When, and only when, the tonearm is at the start position and the record is 30 cm, pressing the cueing control will cause automatic operation to begin (in the same way as if the start switch is pressed).
- When there is no record on the turntable mat, the platter will rotate several times but tonearm will not move.
  At the end of the record the tonearm rises and automatically returns to the start position.
  (Auto-return)
  After the tonearm returns to the start position, press the power switch to turn off the unit (⏏).
  Note:
- If you press the start switch for less than one second while a record is being played, the tonearm returns to the lead in groove and begins playing the record again. The LED above the repeat switch flashes on and off to indicate that this is happening.
- If the cabinet is opened during play, the tonearm returns to the start position.
- If the power switch is turned off during play, the tonearm rises above the record and stays at that position.
  Then when the power is turned on again, the tonearm will return to the start position.

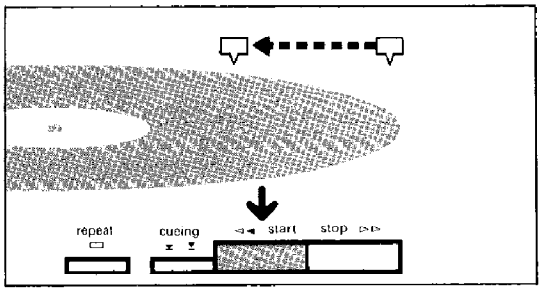
■ Selective play

(Multi-function operation)

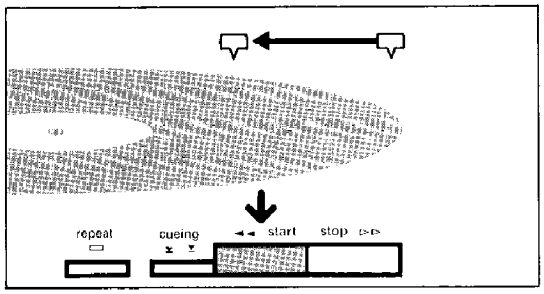
◀◀start switch

■ For normal and fast inward cueing

- The tonearm will keep moving inward as long as you keep the start switch depressed (for longer than 1 second).



- If you press the start switch harder, the tonearm will move inward faster.



- If you press the start switch intermittently, the tonearm will move inward in small steps.
  When you release the start switch, the tonearm will stop at the position it has reached.
  Press the cueing control again to lower the tonearm back onto the record and begin play.

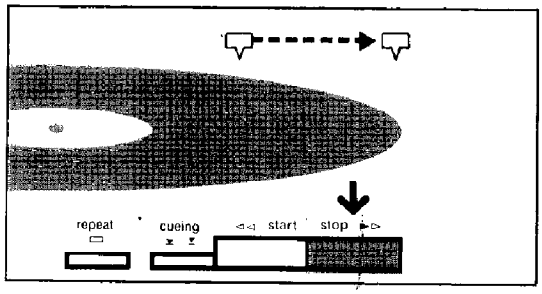
Refer to the Quick Reference Chart on page 12 for more about start and stop operation.

Note:
A safety feature of this unit is that the tonearm can only be cued between the lead-in and lead-out grooves. Therefore, you cannot cue the tonearm all the way back to the start position at the edge of the platter in the case of 17 cm (7") and 25 cm (10") records. Instead, press the cueing control once again to lower the tonearm onto the record, then press the stop switch.

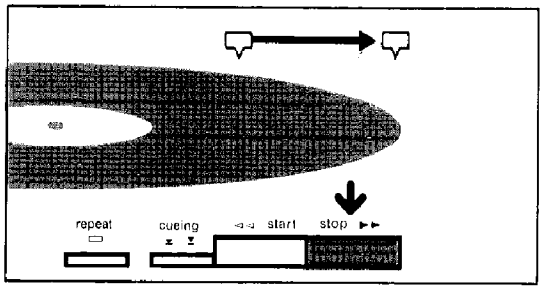
stop ▶▶ switch

■ For normal and fast outward cueing

- The tonearm moves outward (towards the edge of the record) as long as you keep pressing the stop switch (for longer than 1 second).



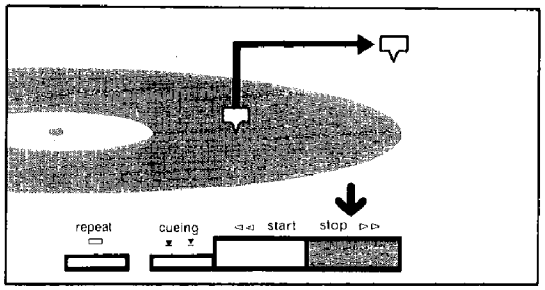
- If you press the stop switch harder, the tonearm will move outward faster.



- If you press the stop switch intermittently, the tonearm will move outward in small steps.
  The tonearm will stop at the position it has reached when you release the stop switch.
  When you press the cueing control again, the tonearm will be lowered onto the record and play will begin.

■ For auto-return or reject during play

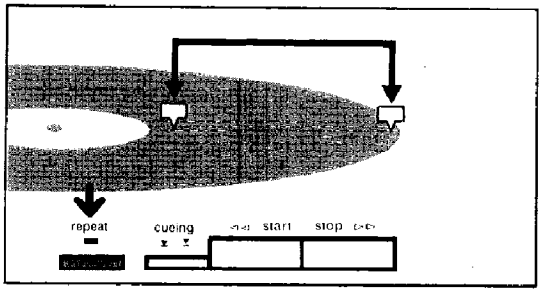
- If you press the stop switch during play (without first pressing the cueing control), the tonearm will rise and return to the start position and the platter will stop rotating.
- Auto-return (reject) operation will not take place if the stop switch is depressed while the tonearm is raised above the record surface.



repeat switch

■ For repeat play

- Press the repeat switch and the repeat indicator LED will turn on to indicate that the record will be played again.

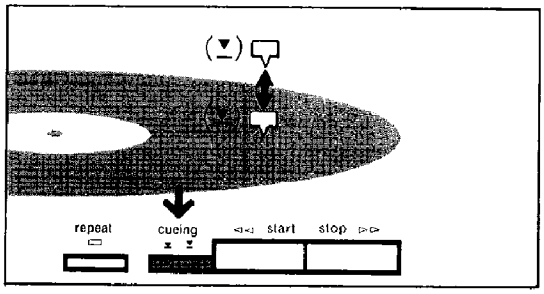


- To stop the repeat cycle, press the repeat switch again.
- Pressing the stop switch or power switch will also stop repeat operation.

▼ ▼ cueing control

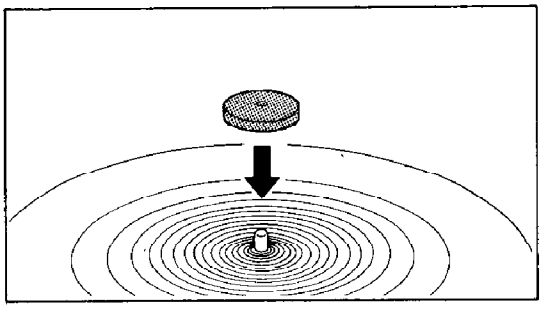
■ For raising or lowering the tonearm during play

- When you press the cueing control, the tonearm rises up from the record surface.
- Press the cueing control again to lower the tonearm onto the record surface and begin play again.



■ For playing a 45-rpm record with a large center hole

Place the 45-rpm adaptor on the center spindle.
Record size and speed are selected automatically, so operation is the same as usual.



■ For playing non-standard records

- In cases playing transparent or colored records (meaning any record which does not completely block light: red, green, blue, yellow, thin black, etc.)
  —Set the disc size selector to the appropriate setting for the record to be played.
  (Record speed will be detected automatically.)

Note:
Always leave the disc size selector at the AUTO position **(Fig. 9)** when playing records that are not transparent. If left at the 17 (7"), 25 (10") or 30.5cm (12") position, there is a danger of damaging the stylus because the tonearm may descend onto the platter surface even if there is no record present.

- For wide diameter 45 rpm records and small diameter 33-1/3 rpm records
  —Press the correct speed selector after closing the upper cabinet.
  (Record size will be detected automatically.)

Note:
Whenever the upper cabinet is opened, speed selection becomes automatic again. Therefore, when you turn over a non-standard size record, you will have to press the speed selector again.

Replacement of stylus

This unit is equipped with a diamond stylus.
The replacement stylus for this cartridge is EPS-23CS.
The life of the stylus varies according to the conditions of use. Noise or scratchiness may indicate a worn or damaged stylus. To prevent damage to your records, the stylus should be replaced at the first sign of wear.
Therefore, follow the instructions below.

Note:
Be sure you have the amp volume knob turned down all the way to avoid amplification of shock noise produced when handling the stylus.

1. Open the cabinet gently.
2. Turn the arm lock in the direction of the arrow to lock the tonearm. **(Fig. 10)**
3. Remove the old stylus and push in the new stylus assembly **(Fig. 11)**, being careful not to touch the stylus tip. Be sure the assembly is pushed in all the way.
4. Turn the arm lock back to its original position.

Replacement of cartridge

Although this unit comes equipped with a high performance MM cartridge as standard equipment, it is also possible to use any other kind of plug-in connector type hi-fi cartridge.
Read the instructions that came with the new cartridge.

1. Open the cabinet gently.
2. Turn the arm lock in the direction of the arrow to lock the tonearm. **(Fig. 10)**
3. Use the screwdriver to loosen the cartridge mounting screw. (As shown in the illustration, loosen the screw until it hangs free.) **(Fig. 12)**
4. Remove the cartridge.
   Being careful not to touch the stylus tip, line up the new cartridge's connector pins with the tonearm connector and insert firmly into place. **(Fig. 13)**
5. Tighten the cartridge mounting screw.
6. Turn the arm lock back to its original position.

Notes and maintenance

■ **Auto-return operation will not function if you press the power switch while a record is being played.**
The tonearm will rise above the record surface but stay where it is.
Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

■ **Be sure to remove all dirt and dust from the stylus tip and the record.**
The cartridge stylus is an extremely delicate and precisely manufactured device designed for picking up the subtle nuances of the record grooves. Therefore, be very careful not to touch it, push on it, or apply excessive force in any way.
The stylus tip cannot retain proper groove contact when it is dirty. This causes bad sound reproduction and excess wear on the stylus tip and grooves. Therefore, use the brush to remove dust and dirt by brushing upward.**(Fig.14)**
Also, use a good record cleaner to remove dust and dirt from the grooves.

■ **Wipe the cabinet with a soft, dry cloth.**
Never use volatile cleaners such as alcohol, benzine or thinner.
Do not use chemically treated dust cloths. Do not expose the panel to insecticide spray.
To remove stubborn spots, first pull out the AC plug.
Then wipe the cabinet with a soft cloth slightly moistened with a mild soap and water solution.
Do not wipe the upper cabinet during play, or the tonearm may be attracted toward the upper cabinet due to the generation of static electricity.

■ **Open the upper cabinet gently.**

■ **Upper cabinet open/close movement has been factory adjusted.**
However, if movement is not smooth, turn the upper cabinet adjustment screw (on the underside of the lower cabinet) one way or the other, as necessary. (Fig. 15)

■ **Always close the upper cabinet completely.**
If the upper cabinet is not completely closed, the stylus cannot contact the grooves properly and the turntable will not operate correctly.
Check again before starting play.

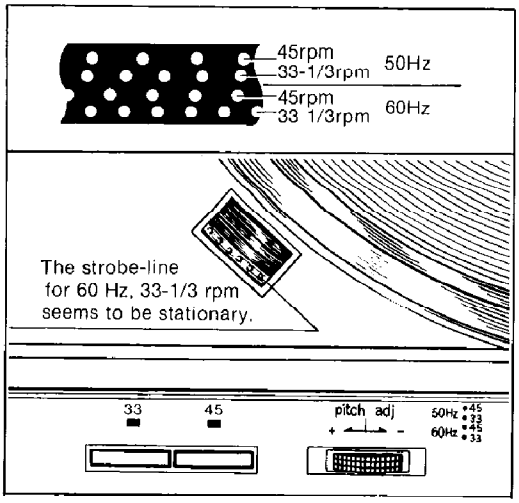
■ **Adjust the stylus pressure in the following cases.**
Stylus pressure is normally set to 1.25 g but may be raised or lowered by ±0.25 g.
It may be necessary to increase stylus pressure when playing records cut at high levels, or when room temperature is low, or when the unit easily picks up external vibrations. This will help prevent distortion and groove-skipping.
In such cases, turn the screw clockwise (+) so the dial scale shows the desired stylus pressure, as indicated in the illustration. **(Fig. 16)**
Note:
Do not turn the stylus-pressure adjustment screw further than the set limits (1.5 g ~1.0 g).

■ **Playing special records.**
Use the **"search"** function for playing the following types of records. Such records may interfere with correct automatic operation. This is not a malfunction of the turntable.
* Non-standard size records [standard sizes (EIA, IEC, DIN, JIS) are 17, 25 and 30 cm].
* Transparent or colored records.
* Eccentric records (having off-center holes).
* Badly warped records.

■ Speed adjustment (Pitch control)

There are strobe-lines cut on the underside of this turntable platter to indicate correct rotational speed.
If the strobe-line appears to be moving as the turntable rotates, adjust while playing a record.
Note:
Be sure to place a record on the turntable mat. If no record is on the mat, the unit will stop rotating after only a few turns.

1. Press the speed selector of the speed to be adjusted.
   The pitch control works for both 33-1/3 and 45 rpm; use the control to adjust rotational speed at both settings.
2. Slowly turn the pitch control in the (+) or (−) direction until the strobe-line appears to be standing still.
   Correct rotational speed is for the speed indicated when the strobe-line appears to be standing still.



In the U.S.A. and CANADA use 60Hz lines.
The 50Hz lines are for European countries.

Note:
Strobe dot pattern
This unit's strobe illuminator operates at the AC line frequency which generally has a 0.2% fluctuation.
This fluctuation, when present, may make the strobe pattern appear to change. However, actual turntable speed does not change, because the DC motor is not affected by AC power line frequency.

Troubleshooting guide

Problems	Causes	Solutions
■ **Unit does not turn on when power switch is pressed (no power).** Tonearm position indicator and strobe illuminator/pilot lamp do not light up.	• Power cord not plugged in. • The amp is not turned on. (This applies when the unit is plugged into amp's "switched" AC outlet.)	• Check all connections. • Turn on amp.
■ **Power switch is turned on but there is no sound (during record play).**	• Speaker cords are disconnected. • Phono output cords are disconnected from amp's phono input jacks. • Amp's tape monitor switch is set to "tape" position. • Amp's input source selector is set to "tuner" or "aux". • Amp's speaker selector is at "off" position. • Amp's volume is turned all the way down.	• Connect speaker cables. Check correct polarity (+ and). • Connect phono output cords. Check correct L and R connections. • Set to "source" when not playing tapes. • Set to "phono". • Set to "main" or "remote". • Turn up volume.
■ **Auto-play does not begin when start switch is pressed.**	• The tonearm is locked. • The record is transparent.	• Unlock the tonearm. • Set the disc size selector to the size of the record to be played.
■ **Volume is too low.**	• Amp muting is on.	• Set to 0 dB or off.
■ **There is a hum.**	• Ground is not connected. • The turntable is too close to the amplifier.	• Connect to amp's GND terminal. • Try reversing the AC power plug in the wall socket. • Place the turntable further away from the power amp (or integrated amp).
■ **Stylus skips grooves.**	• Record is warped. • Turntable is placed where it easily picks up vibrations. • Dust or dirt is on the stylus tip.	• Check for warps and try another record. • Set the turntable in a position where it will be less susceptible to external vibrations. • Set the stylus pressure to 1.5 g. • Clean stylus tip with accessory brush.
■ **Record sounds scratchy and/or muffled.**	• Record is scratched or damaged. • Record is dusty or dirty. • Stylus tip is dusty. • Stylus tip is worn.	• Adjust amp's tone controls to cut out high-frequency noise. • Use a record cleaner to remove dust and dirt from grooves. • Use the brush to clean stylus tip. • If there is still noise when a good new record is played, you should replace the cartridge or stylus.
■ **During auto-play, the stylus does not drop into the lead-in grooves.**	• The record diameter does not conform to industry standards.	• Follow selective play.
■ **Tonearm does not automatically return to the start position at the end of record.**	• Record does not conform to industry standard dimensions.	• Press the stop switch.
■ **Auto-return occurs during record play.**	• A voltage drop in the AC mains supply due to lightning or other damage. This is not an indication of damage to the turntable.	• This is the same as normal auto-return, so press the start switch to begin record play again.

Features

■ High performance direct-drive in slim design.

The SL-DL1 is divided into upper and lower cabinet halves. The top half, which also functions as the dust cover, contains the linear tracking tonearm, its drive mechanism and optical sensor. The lower cabinet contains the tonearm servo control system (microcomputer) and Technics original integral rotor-platter direct drive motor.

■ Simple basic operation. Completely automatic play.

Turn on the power, put on a record, close the top and press the start switch. After that, everything is handled by the microcomputer and optical sensor which automatically detect record size, select correct speed and cue the tonearm to the lead-in groove.

For non-standard records, front panel speed selectors let you select the correct speed manually (large 45s, or small 33-1/3 records, for example).

The tonearm automatically returns to the start position after completing play. The tonearm does not move if no record is on the platter.

■ Complex operation also possible.

Although easy operation is a basic feature of this unit, complex functions are also possible. The **"search"** function allows start, stop switches controlled inward and outward movement of the tonearm at slow and fast speed, plus fine control in approximately 1 mm steps.

■ Dynamic balanced linear tracking tonearm employs optical sensor and groove deflection angle detection for extremely stable and accurate tracking.

The linear tracking tonearm moves across the record surface in the same way as the cutter head used to make the record in the first place. Therefore there is virtually no tracking error or skating force.

Located by the stylus is an optical sensor that detects tracking conditions by means of groove deflection angle. Based on this information, tonearm movement is controlled to maintain optimum tracking at all times.

■ A precision DC motor is used for tonearm drive to assure quiet and accurate control.

A precision DC motor and low-friction slide bearing assure accurate tonearm movement.

A 4-point pivot bearing gimbal suspension developed by Technics reduces friction and raises sensitivity while contributing to smooth tracing ability.

Specifications

■ General

Power supply:	~110-120/220-240V, 50/60Hz
Power consumption:	17 W
Dimensions:	43.0 × 8.8 × 35.0 cm
(W×H×D)	43.0 × 39.7 × 35.0 cm (Maximum height when top is open all the way.)
Weight:	7.1 kg (15.7 lb.)

■ Turntable section

Type:	Direct drive Automatic turntable Auto start/Auto lead-in Auto return Auto stop Repeat play Auto speed select Manual speed selection possible. Auto size select 2-speed search functions Record presence detection
Drive method:	Direct drive
Motor:	Brushless DC motor
Turntable platter:	Aluminum die-cast Diameter 31.2 cm (12-9/32")
Turntable speeds:	33-1/3 rpm and 45 rpm Auto speed select (Manual selection possible)
Pitch control:	10% adjustment range
Wow and flutter:	0.012% WRMS* 0.025% WRMS (JIS C5521) ±0.035% peak (IEC 98A Weighted)

*Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble:	−56 dB (IEC 98A Unweighted) −78 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Dynamic balanced type Linear tracking tonearm 4-pivot gimbal suspension
Effective length:	10.5 cm (4-1/8")
Tracking error angle:	Within ±0.1°
Effective mass:	9 g (including cartridge)
Resonance frequency:	12 Hz
Tonearm drive motor:	DC motor

■ Cartridge section

Type:	Moving magnet stereo cartridge One point suspension system
Magnet:	Samarium cobalt (Sm-Co)
Magnetic circuit:	All laminated core
Frequency response:	10 Hz to 35 kHz 20 Hz to 10 kHz ±1 dB
Output voltage:	2.5 mV at 1 kHz, 5 cm/s, zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s, zero to peak 45° velocity [DIN 45 500])
Channel separation:	More than 22 dB at 1 kHz
Channel balance:	Within 1.0 dB at 1 kHz
Recommended load impedance:	47 kΩ~100 kΩ
Compliance (dynamic):	12 × 10^{-6} cm/dyne at 100 Hz
Stylus pressure range:	1.25 ±0.25 g (12.5 ±2.5mN)
Weight:	6.0 g (cartridge only)
Replacement stylus:	EPS-23CS (Equivalent replacement stylus EPS-23ES)

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

Plug-in connector cartridges are now available from ortofon (Denmark), Shure (U.S.A.), Audio Technica (Japan) as well as from Technics. All of these cartridges are designed for perfect matching with this turntable in all areas including weight, tracking force, stylus tip position, and center of gravity. Therefore, you have the option of employing a wide range of cartridges from the world's top manufacturers without the trouble of lead wire connections or tracking force adjustment.

Quick Reference Chart for Start and Stop Operation

Switch pressed / Cueing up/down	Start Switch				Stop Switch			
	Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously		Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously	
			Lightly ◁ ◄	Hard ◄ ◄			Lightly ► ▷	Hard ► ►
Cueing up (▼)	———	Tonearm moves inward in small steps.	Tonearm moves inward.	Moves faster.	———	Tonearm moves outward in small steps.	Tonearm moves outward.	Moves faster.
Cueing down (▼)	Tonearm rises and returns to start position and begins play again.	———	Tonearm rises and moves inward.	Tonearm rises and moves faster.	Auto-return (reject)	———	Tonearm rises and moves outward.	Tonearm rises and moves faster.

Suggestions for safety

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

1. **Avoid places where there is water or humidity.**
   Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.
2. **Do not allow water or any foreign object to get inside this unit.**
   Do not place small metal objects or anything containing liquid on or near the unit.
3. **Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.**
   Do not place this unit in a bookcase or between cabinets, unless proper ventilation is provided, or where curtains or furniture may obstruct the ventilation holes.
4. **Place this unit away from heat-emitting appliances.**
   Never place this unit on or near a radiator, heat register, stove, or any other heat-emitting equipment (including amplifiers).
5. **Placement**
   Place the unit on a stable, vibration-free, level shelf or stand.
6. **Use of a cart or stand.**
   When deciding on a cart or stand, be sure to use only with the cart or stand recommended by the manufacturer.
7. **Wall or ceiling installation.**
   If the unit is to be mounted on a wall or ceiling, be sure to do so only as recommended by the manufacturer.
8. **Check the voltage rating of this unit before connecting the unit to a power source.**
   Be sure to connect the unit only to the type of power source indicated in the operating instructions, or as indicated on the unit itself.
9. **Care of the power cord and plug.**
   Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched, crushed or frayed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.
10. **If the unit will not be used for an extended period of time:**
    Be sure to disconnect the power cord from the wall outlet.
11. **Maintenance**
    Refer to the operating instructions for details.
12. **Never attempt repairs yourself:**
    (a) If the power cord or plug is damaged.
    (b) If a foreign object has fallen or liquid has spilled into it.
    (c) If the unit is exposed to rain.
    (d) If the unit does not function normally, or if operation shows a distinct change in performance.
    (e) If the unit has been dropped and the cabinet or chassis is damaged...etc.
    Unplug the power cord and have it checked by a qualified technician (or the dealer from whom the unit was purchased or the nearest servicentre).
13. **Repairs**
    Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest servicentre).

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Printed in Japan

SFNUD11G01
S0881Y1